CLAIMS

SUB C1 1. A method of processing an optical device incorporating a waveguide, the method comprising the step of:

utilizing a laser to heat and thereby ablate a surface of the device so as to induce a stress in said optical device and thereby alter an optical characteristic of the waveguide, wherein the power density of the laser is selected to effect surface ablation.

2. A method as claimed in claim 1, wherein the laser comprises a carbon dioxide laser source.

3. A method as claimed in claim 1, wherein the method is utilized to alter the birefringent properties of the waveguide.

4. A method as claimed in claim 3, wherein the TM and TE birefringent modes are substantially aligned by the method.

5. A method as claimed in claim 1, further comprising the step of masking the surface with a thermally conductive material having an aperture defined to minimize exposure of the device to the laser.

6. A method as claimed in claim 1, wherein the device comprises a sensor.

7. A method as claimed in claim 1, further comprising the step of depositing a material layer on the surface.

8. A method as claimed in claim 7, wherein the step of depositing the material layer comprises depositing the material layer on portions of the surface affected by the ablation.

9 A method as claimed in claim 1, further comprising the step of mounting a further component in a groove formed in the surface as a result of the ablation

10. A method as claimed in claim 7, wherein the material layer is provided as an electrode for electrically contacting the device.

11. A method as claimed in claim 9, wherein the further component comprises a modulator for modulating a characteristic of the device.

12. A method as claimed in claim 1, wherein the step of utilizing the laser to heat the surface is conducted at different locations of the device so as to form an optical structure.

13. A method as claimed in claim 12, wherein the optical structure comprises a grating structure.

14. A method as claimed in claim 12, wherein the optical structure comprises a polarization filter.

15. A method as claimed in claim 1, wherein the method is used to diminish UV induced changes present in the waveguide.

16. A method as claimed in claim 1, wherein the device comprises an optical fibre.

17 A method as claimed in claim 1, wherein the method is utilized to mark the device by way of the ablation.

18. A method as claimed in claim 1, wherein the laser comprises a semiconductor laser operating at a wavelength of more than about 1.8 micro metre.

19. A method as claimed in claim 18, wherein the surface of the device comprises SiO_2.

20. A method as claimed in claim 1, wherein the method further comprises the step of providing an absorber material to facilitate the heating of the surface of the device.

21. A device incorporating a waveguide, wherein the waveguide has been processed utilizing a laser to heat and thereby ablate a surface of the device so as to induce a stress in said device and thereby alter an optical characteristic of the waveguide, wherein the power density of the laser is selected to effect ablation.